Applicant: Lin Zhi et al.

Attorney's Docket No.: 18202-048001 / 1087

Serial No.: 10/684,212

Attorney's Docket No.: 18202-048001 / 1087

RCE & Preliminary Amendment

Filed : October 10, 2003

AMENDMENTS TO THE CLAIMS:

Claims 1, 5, 9-11, 15, 19, 23 and 24 are amended herein. Claims 41-55, which correspond to original claims 26-40, are added. This listing of claims will replace all prior versions, and listings of claims, in the application.

LISTING OF CLAIMS:

1. (Original) A compound of the formula:

$$F \longrightarrow R^{8} \xrightarrow{Me} Me \qquad (I)$$

wherein:

 R^8 is selected from the group of C_1 - C_{12} alkyl, C_1 - C_{12} heteroalkyl, C_1 - C_{12} haloalkyl, C_2 - C_{12} alkenyl, C_2 - C_{12} heteroalkenyl, C_2 - C_{12} haloalkenyl, C_2 - C_{12} alkynyl, C_2 - C_{12} heteroalkynyl, C_2 - C_{12} haloalkynyl, aryl and heteroaryl, optionally substituted with one or more substituents independently selected from the group of hydrogen, C_1 - C_4 alkyl, F, Cl, Br, I, CN, NO_2 , NH_2 , $NHCH_3$, $N(CH_3)_2$, SH, SCH_3 , OH, OCH_3 , OCF_3 , CF_3 , $C(O)CH_3$, $CO2CH_3$, $C(O)NH_2$, OR^{10} , SR^{10} , and $NR^{10}R^{11}$;

R⁹ is selected from the group of hydrogen, F, Cl, Br, I, CN, C₁-C₈ alkyl, C₁-C₈ heteroalkyl, C₁-C₈ haloalkyl, C₂-C₈ alkenyl or cycloalkenyl, C₂-C₈ heteroalkenyl, C₂-C₈ haloalkenyl, C₂-C₈ alkynyl, C₂-C₈ heteroalkynyl, C₂-C₈ haloalkynyl, aryl and heteroaryl, optionally substituted with one or more substituents independently selected from the group of hydrogen, C₁-C₄ alkyl, F, Cl, Br, I, CN, NO₂, NH₂, NHCH₃, N(CH₃)₂, SH, SCH₃, OH, OCH₃, OCF₃, CF₃, C(O)CH₃, CO₂CH₃, C(O)NH₂, OR¹⁰, SR¹⁰, and NR¹⁰R¹¹;

R¹⁰ and R¹¹ each independently is hydrogen, or C₁-C₄ alkyl; or a pharmaceutically acceptable salt or prodrug thereof.

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2. (Original) A compound according to claim 1, wherein R⁸ is selected from the group of C₁-C₈ alkyl, C₁-C₈ heteroalkyl, C₁-C₈ haloalkyl, C₂-C₈ alkenyl, C₂-C₈ heteroalkenyl, C₂-C₈ haloalkenyl, C₂-C₈ alkynyl, C₂-C₈ heteroalkynyl, C₂-C₈ haloalkynyl, aryl and heteroaryl, optionally substituted with one or more substituents independently selected from the group of hydrogen, C₁-C₄ alkyl, F, Cl, Br, I, CN, NO₂, NH₂, NHCH₃, N(CH₃) ₂, SH, SCH₃, OH, OCH₃, OCF₃, CF₃, C(O)CH₃, CO₂CH₃, C(O)NH₂, OR¹⁰, SR¹⁰, and NR¹⁰R¹¹.

- 3. (Original) A compound according to claim 2, wherein R^8 is selected from the group of C_1 - C_4 alkyl, C_1 - C_4 heteroalkyl, C_1 - C_4 haloalkyl, C_2 - C_4 alkenyl, C_2 - C_4 heteroalkynyl, C_2 - C_4 haloalkynyl, C_2 - C_4 haloalkynyl, and C_2 - C_4 haloalkynyl.
- 4. (Original) A compound according to claim 2, wherein R⁸ is selected from the group of aryl and heteroaryl radicals, wherein said aryl and heteroaryl radicals are optionally substituted with one or more substituents independently selected from the group of hydrogen, C₁-C₄ alkyl, F, Cl, Br, CN, NH₂, NHCH₃, N(CH₃)₂, SH, SCH₃, OH, OCH₃, OCF₃, CF₃, C(O)CH₃, OR¹⁰, SR¹⁰, and NR¹⁰R¹¹.
- 5. (Currently amended) A compound according to claim 2, wherein R⁸ is selected from the group of

$$\mathbb{R}^{5}$$
 \mathbb{R}^{4} , \mathbb{R}^{5}
 \mathbb{R}^{1}
 \mathbb{R}^{1}
 \mathbb{R}^{1}

wherein:

 R^1 and R^2 each independently is selected from the group of hydrogen, F, Cl, Br and C₁-C₄ alkyl;

 R^3 through R^5 each independently is selected from group of hydrogen, F, Cl, and C_1 - C_4 alkyl;

n is 0 or 1; and

Y is selected from the group of O, S, and NR¹⁰.

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6. (Original) A compound according to claim 1, wherein R⁹ is selected from the group of hydrogen, F, Cl, Br, CN, C₁-C₆ alkyl, C₁-C₆ heteroalkyl, C₁-C₆ haloalkyl, C₂-C₆ alkenyl or cycloalkenyl, C₂-C₆ heteroalkenyl, C₂-C₆ haloalkenyl, C₂-C₆ heteroalkynyl, C₂-C₆ haloalkynyl, aryl and heteroaryl optionally substituted with one or more substituents independently selected from the group of hydrogen, C₁-C₄ alkyl, F, Cl, Br, I, CN, NO₂, NH₂, NHCH₃, N(CH₃)₂, SH, SCH₃, OH, OCH₃, OCF₃, CF₃, C(O)CH₃, CO₂CH₃, C(O)NH₂, OR¹⁰, SR¹⁰, and NR¹⁰R¹¹.

- 7. (Original) A compound according to claim 6, wherein R^9 is selected from the group of hydrogen, Br, C_1 , C_1 - C_4 alkyl, C_1 - C_4 heteroalkyl, C_1 - C_4 haloalkyl, C_2 - C_4 alkenyl, C_2 - C_4 haloalkenyl, C_2 - C_4 haloalkenyl, C_2 - C_4 haloalkynyl, C_2 - C_4 haloalkynyl.
- 8. (Original) A compound according to claim 6, wherein R⁹ is selected from the group of aryl and heteroaryl radicals, wherein said aryl and heteroaryl radicals are optionally substituted with one or more substituents independently selected from the group of hydrogen, C₁-C₄ alkyl, F, Cl, Br, CN, NH₂, NHCH₃, N(CH₃)₂, SH, SCH₃, OH, OCH₃, OCF₃, OR¹⁰, SR¹⁰, and NR¹⁰R¹¹.
- 9. (Currently amended) A compound according to claim 6, wherein R⁹ is selected from the group of R⁷

$$R^7$$
 and R^6 R^6 R^7 ;

wherein:

 R^6 is selected from the group of hydrogen, F, Cl, Br, C_1 - C_4 alkyl, OR^{10} , SR^{10} , and $NR^{10}R^{11}$; R^7 is hydrogen, F, or Cl;

 R^{10} and R^{11} each independently is hydrogen, or C_1 - C_4 alkyl;

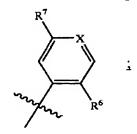
X is CH or N; and

Y is selected from the group of O, S, and NR¹⁰.

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10. (Currently amended) A compound according to claim 9, wherein:

R⁹ is



R⁶ is selected from the group of hydrogen, F, Cl, C₁-C₄ alkyl, OMe, OEt, NHMe, and NMe₂;

R⁷ is hydrogen, F, or Cl; and

X is CH or N.

- 11. (Currently amended) A compound according to claim 9, where wherein R⁶ is selected from the group of F, Me, Et, OMe, OEt, SMe, and NMe₂.
- 12. (Original) A compound according to claim 1, wherein said compound is selected from the group of:

7,9-difluoro-5(Z)-benzylidene-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]-quinoline (Compound 10);

7,9-difluoro-5(Z)-(2-fluorobenzylidene)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]-quinoline (Compound 12);

7,9-difluoro-5(Z)-(2-chlorobenzylidene)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]quinoline (Compound 13);

7,9-difluoro-5(Z)-(4-picolylidene)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]-quinoline (Compound 14);

7,9-difluoro-5(Z)-(3-fluorobenzylidene)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno-[3,4-f]quinoline (Compound 15);

7,9-difluoro-5(Z)-(4-fluorobenzylidene)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno-[3,4-f]quinoline (Compound 16);

7,9-difluoro-5(Z)-(2,5-difluorobenzylidene)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]quinoline (Compound 17);

7,9-difluoro-5(Z)-(2-methoxybenzylidene)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]quinoline (Compound 18);

7,9-difluoro-5(Z)-(2-methyl-5-fluorobenzylidene)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]quinoline (Compound 19);

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7,9-difluoro-5(Z)-(3-methyl-4-picolylidene)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]quinoline (Compound 20);

7,9-difluoro-5(Z)-(2-methyl-3-fluorobenzylidene)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]quinoline (Compound 21);

7,9-difluoro-5(Z)-(3-methyl-2-picolylidene)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]quinoline (Compound 22);

7,9-difluoro-5(Z)-(2,3-dimethylbenzylidene)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]quinoline (Compound 23);

7,9-difluoro-5(Z)-cyanomethylidene-1,2-dihydro-2,2,4-trimethyl-5H-chromeno-[3,4-f]-quinoline (Compound 24);

7,9-difluoro-5(Z)-hexylidene-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]-quinoline (Compound 25);

7,9-difluoro-5(Z)-(2-methoxy-5-fluorobenzylidene)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]quinoline (Compound 26);

7,9-difluoro-5(Z)-(2,4,5-trifluorobenzylidene)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]quinoline (Compound 27);

7,9-difluoro-5-methylidene-1,2-dihydro-2,2,4-trimethyl-5-H-chromeno[3,4-f]-quinoline (Compound 28);

7,9-difluoro-5(Z)-bromomethylidene-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]-quinoline (Compound 29);

7,9-difluoro-5(Z)-(3-thienylmethylidene)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]quinoline (Compound 30);

7,9-difluoro-5(Z)-(2-thienylmethylidene)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]quinoline (Compound 31);

 (\pm) -7,9-difluoro-5-methoxy-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]-quinoline (Compound 32);

(±)-7,9-difluoro-5-phenyl-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]quinoline (Compound 33);

(±)-7,9-difluoro-5-(3-methylphenyl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]-quinoline (Compound 34);

(±)-7,9-difluoro-5-(1,3-benzodioxo-1-5-yl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]quinoline (Compound 35);

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(±)-7,9-difluoro-5-(4-bromophenyl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]-quinoline (Compound 36);

- (±)-7,9-difluoro-5-(4-chloro-3-methylphenyl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]quinoline (Compound 37);
- (-)-7,9-difluoro-5-(4-chloro-3-methylphenyl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]quinoline (Compound 38);
- (+)-7,9-difluoro-5-(4-chloro-3-methylphenyl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]quinoline (Compound 39);
- (±)-7,9-difluoro-5-(3-fluoro- phenyl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]-quinoline (Compound 40);
- (±)-7,9-difluoro-5-(3-chlorophenyl)-1,2-dihydro-2,2,4-trimethyl-5-H-chromeno[3,4-f]-quinoline (Compound 41);
- (±)-7,9-difluoro-5-(3-bromophenyl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]-quinoline (Compound 42);
- (±)-7,9-difluoro-5-(4-chlorophenyl)-1,2-dihydro-2,2,4-trimethyl-5-H-chromeno[3,4-f]-quinoline (Compound 43);
- (±)-7,9-difluoro-1,2-dihydro-2,2,4,5-tetramethyl-5H-chromeno[3,4-f]quinoline (Compound 44);
- (±)-7,9-difluoro-5-(2-oxo-2-phenylethyl)-1,2-dihydro-2,2,4-trimethyl-5-H-chromeno-[3,4-f]quinoline (Compound 45);
- (±)-7,9-difluoro-5-ethyl-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]quinoline (Compound 46);
- (±)-7,9-difluoro-5-ethenyl-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]-quinoline (Compound 47);
- (±)-7,9-difluoro-5-(2-oxo-3-butenyl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]-quinoline (Compound 48);
- (±)-7,9-difluoro-1,2-dihydro- α , α ,2,2,4-pentamethyl-5H-chromeno[3,4-f]quinoline-5-ethanoate (Compound 49);
- (±)-7,9-difluoro-5-ethynyl-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]-quinoline (Compound 50);
- (±)-7,9-difluoro-5-cyano-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]-quinoline (Compound 51);

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(±)-7,9-difluoro-5-butyl-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]quinoline (Compound 52);

- (±)-7,9-difluoro-5-(2-thienyl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]-quinoline (Compound 53);
- (±)-7,9-difluoro-5-(2-furyl)-1,2-dihydro-2,2,4-trimethy-1-5H-chromeno[3,4-f]-quinoline (Compound 54);
- (±)-7,9-difluoro-5-allyl-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]quinoline (Compound 55);
- (±)-7,9-difluoro-5-[3-(trifluoromethyl)phenyl]-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]quinoline (Compound 56);
- Ethyl- (\pm) -7,9-difluoro-1,2-dihydro- α -methylene-2,2,4-trimethyl-5H-chromeno[3,4-f]-quinoline-5-propanoate (Compound 57);
- (±)-7,9-difluoro-1,2-d- ihydro-.beta.-methylene-2,2,4-trimethyl-5H-chromeno[3,4-f]-quinoline-5-propanol (Compound 58);
- (±)-7,9-difluoro-1,2-dihydro-13-methylene-2,2,4-tri- methyl-5H-chromeno[3,4-f]-quinoline-5-propanol acetate(Compound 59);
- (±)-7,9-difluoro-5-(1-methylethenyl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]-quinoline (Compound 60);
- (±)-7,9-difluoro-5-(N-methyl-2-pyrrolyl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno-[3,4-f]quinoline (Compound 61);
- (±)-7,9-difluoro-5-phenylethynyl-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]-quinoline (Compound 62);
- (±)-7,9-difluoro-5-(benzo[b]thien-2-yl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno-[3,4-f]-quinoline (Compound 63);
- (-)-7,9-difluoro-5-(benzo[b]thien-2-yl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno-[3,4-f]-quinoline (Compound 64);
- (+)-7,9-difluoro-5-(benzo[b]thien-2-yl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno-[3,4-f]-quinoline (Compound 65);
- (±)-7,9-difluoro-5-(5-methyl-2-furyl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno-[3,4-f]-quinoline (Compound 66);
- (±)-7,9-difluoro-5-(2-benzo-[b]-furyl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno-[3,4-f]-quinoline (Compound 67);

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(±)-7,9-difluoro-5-[4-(dimethylamino)phenyl]-1,2-dihydr- o-2,2,4-trimethyl-5H-chromeno[3,4-f]quinoline (Compound 68);

- (±)-7,9-difluoro-5-(5-methyl-2-thienyl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno-[3,4-f]-quinoline (Compound 69);
- (±)-7,9-difluoro-5-(5-methoxy-2-furyl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno-[3,4-f]-quinoline (Compound 70);
- (±)-7,9-difluoro-5-(2-propynyl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]-quinoline (Compound 71);
- (-)-7,9-difluoro-5-(2-propynyl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]-quinoline (Compound 72);
- (+)-7,9-difluoro-5-(2-propynyl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]-quinoline (Compound 73);
- (±)-7,9-difluoro-5-(1-propynyl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]-quinoline (Compound 74);
- (-)-7,9-difluoro-5-(1-propynyl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]-quinoline (Compound 75);
- (+)-7,9-difluoro-5-(1-propynyl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]-quinoline (Compound 76);
- (±)-7,9-difluoro-5-(4,5-dimethyl-2-furyl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno-[3,4-f]quinoline (Compound 77);
- (±)-7,9-difluoro-5-(2-methyl-1-propenyl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno-[3,4-f]quinoline (Compound 78);
- (±)-7,9-difluoro-5-(3,4-dimethyl-2-thienyl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]quinoline (Compound 79);
- (±)-7,9-difluoro-5-(3-(3-bromophenyl)phenyl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]quinoline (Compound 80); and
- 7,9-difluoro-5-(2-methyl- benzylidene)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno-[3,4-f]-quinoline (Compound 81).
- 13. A compound according to claim 1, wherein said compound is selected from the group of:
- 7,9-difluoro-5(Z)-benzylidene-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]-quinoline (Compound 10);

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7,9-difluoro-5(Z)-(2-fluorobenzylidene)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno-[3,4-f]quinoline (Compound 12);

7,9-difluoro-5(Z)-(3-fluorobenzylidene)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno-[3,4-f]quinoline (Compound 15);

7,9-difluoro-5(Z)-(2,5-difluorobenzylidene)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]quinoline (Compound 17);

7,9-difluoro-5 (Z)-(2-methoxybenzylidene)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno-[3,4-f]quinoline (Compound 18);

7,9-difluoro-5(Z)-(2-methyl-5-fluorobenzylidene)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]quinoline (Compound 19);

7,9-difluoro-5(Z)-(3-methyl-4-picolylidene)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno-[3,4-f]quinoline (Compound 20);

7,9-difluoro-5(Z)-(2-methoxy-5-fluorobenzylidene)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]quinoline (Compound 26);

7,9-difluoro-5(Z)-(3-thienylmethylidene)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno-[3,4-f]quinoline (Compound 30);

7,9-difluoro-5(Z)-(2-thienylmethylidene)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno-[3,4-f]quinoline (Compound 31);

- (±)-7,9-difluoro-5-(3-methylphenyl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]-quinoline (Compound 34);
- (-)-7,9-difluoro-5-(4-chloro-3-methylphenyl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]quinoline (Compound 38);
- (+)-7,9-difluoro-5-(3-chlorophenyl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]-quinoline (Compound 41);
- (±)-7,9-difluoro-1,2-dihydro-2,2,4,5-tetramethyl-5H-chromeno[3,4-f]quinoline (Compound 44);
- (±)-7,9-difluoro-5-allyl-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]quinoline (Compound 55);
- (±)-7,9-difluoro-5-(3-trifluoromethylphenyl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]quinoline (Compound 56);
- (±)-7,9-difluoro-5-(benzo- [b]thien-2-yl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]quinoline (Compound 63);

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(-)-7,9-difluoro-5-(benzo[b]thien-2-yl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]-quinoline (Compound 64);

- (+)-7,9-difluoro-5-(benzo[b]thien-2-yl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno-[3,4-f]-quinoline (Compound 65);
- (-)-7,9-difluoro-5-(2-propynyl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]-quinoline (Compound 72);
- (-)-7,9-difluoro-5-(1-propynyl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]-quinoline (Compound 75); and
- 7,9-difluoro-5-(2-methylbenzylidene)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno-[3,4-f]-quinoline (Compound 81).
- 14. A compound according to claim 1, wherein said compound is selected from the group of:
- 7,9-difluoro-5(Z)-(2,5-difluorobenzylidene)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]quinoline (Compound 17);
- 7,9-difluoro-5(Z)-(2-methyl-5-fluorobenzylidene)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]quinoline (Compound 19);
- 7,9-difluoro-5 (Z)-(3-methyl-4-picolylidene)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]quinoline (Compound 20);
- 7,9-difluoro-5(Z)-(2-methoxy-5-fluorobenzylidene)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]quinoline (Compound 26);
- (-)-7,9-difluoro-5-(4-chloro-3-methylphenyl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]quinoline (Compound 38);
- (±)-7,9-difluoro-5-(benzo[b]thien-2-yl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]-quinoline (Compound 63);
- (-)-7,9-difluoro-5-(benzo[b]thien-2-yl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]-quinoline (Compound 64);
- (±)-7,9-difluoro-5-(benzo[b]thien-2-yl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno-[3,4-f]-quinoline (Compound 65); and
- (-)-7,9-difluoro-5-(2-propynyl)-1,2-dihydro-2,2,4-trimethyl-5H-chromeno[3,4-f]-quinoline (Compound 72).
- 15. (Currently amended) A pharmaceutical composition comprising a pharmaceutically acceptable carrier and a compound of formula:

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2 R⁹

or

wherein:

R⁸ is selected from the group of C₁-C₁₂ alkyl, C₁-C₁₂ heteroalkyl, C₁-C₁₂ haloalkyl, C₂-C₁₂ alkenyl, C₂-C₁₂ heteroalkenyl, C₂-C₁₂ haloalkenyl, C₂-C₁₂ alkynyl, C₂-C₁₂ heteroalkynyl, C₂-C₁₂ haloalkynyl, aryl and heteroaryl optionally substituted with one or more substituents independently selected from the group of hydrogen, C₁-C₄ alkyl, F, Cl, Br, I, CN, NO₂, NH₂, NHCH₃, N(CH₃)₂, SH, SCH₃, OH, OCH₃, OCF₃, CF₃, C(O)CH₃, CO₂CH₃, C(O)NH₂, OR¹⁰, SR¹⁰, and NR¹⁰R¹¹;

R⁹ is selected from the group of hydrogen, F, Cl, Br, I, CN, C₁-C₈ alkyl, C₁-C₈ heteroalkyl, C₁-C₈ haloalkyl, C₂-C₈ alkenyl or cycloalkenyl, C₂-C₈ heteroalkenyl, C₂-C₈ haloalkenyl, C₂-C₈ alkynyl, C₂-C₈ heteroalkynyl, C₂-C₈ haloalkynyl, aryl and heteroaryl optionally substituted with one or more substituents independently selected from the group of hydrogen, C₁-C₄ alkyl, F, Cl, Br, I, CN, NO₂, NH₂, NHCH₃, N(CH₃)₂, SH, SCH₃, OH, OCH₃, OCF₃, CF₃, C(O)CH₃, CO₂CH₃, C(O)NH₂, OR¹⁰, SR¹⁰, and NR¹⁰R¹¹; and

R¹⁰ and R¹¹ each independently is hydrogen, or C₁-C₄ alkyl; or a pharmaceutically acceptable salt or prodrug thereof.

16. (Original) A pharmaceutical composition according to claim 15, wherein R^8 is selected from the group of C_1 - C_8 alkyl, C_1 - C_8 heteroalkyl, C_1 - C_8 haloalkyl, C_2 - C_8 alkenyl, C_2 - C_8 heteroalkenyl, C_2 - C_8 haloalkenyl, C_2 - C_8 heteroalkynyl, C_2 - C_8 haloalkynyl, aryl and heteroaryl, optionally substituted with one or more substituents independently selected

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from the group of hydrogen, C₁-C₄ alkyl, F, Cl, Br, I, CN, NO₂, NH₂, NHCH₃, N(CH₃)₂, SH, SCH₃, OH, OCH₃, OCF₃, CF₃, C(O)CH₃, CO₂CH₃, C(O)NH₂, OR¹⁰, SR¹⁰, and NR¹⁰R¹¹.

- 17. (Original) A pharmaceutical composition according to claim 16, wherein R⁸ is selected from the group of C₁-C₄ alkyl, C₁-C₄ heteroalkyl, C₁-C₄ haloalkyl, C₂-C₄ alkenyl, C₂-C₄ heteroalkenyl, C₂-C₄ haloalkenyl, and C₂-C₄ alkynyl, C₂-C₄ heteroalkynyl and C₂-C₄ haloalkynyl.
- 18. (Original) A pharmaceutical composition according to claim 16, wherein R⁸ is selected from the group of aryl and heteroaryl radicals, wherein said aryl and heteroaryl radicals are optionally substituted with one or more substituents independently selected from the group of hydrogen, C₁-C₄ alkyl, F, Cl, Br, CN, NH₂, NHCH₃, N(CH₃)₂, SH, SCH₃, OH, OCH₃, OCF₃, CF₃, C(O)CH₃, OR¹⁰, SR¹⁰, and NR¹⁰R¹¹.
- 19. (Currently amended) A pharmaceutical composition according to claim 16, wherein R⁸ is selected from the group of

$$R^5$$
 R^4 , R^4 , R^5
 R^5
 R^5
 R^5
 R^5
 R^7
 R^1
 R^1

wherein:

R¹ and R² each independently is selected from the group of hydrogen, F, Cl, Br and C₁-C₄ alkyl;

R³ through R⁵ each independently is selected from the group of hydrogen, F, Cl, and C_1 - C_4 alkyl;

n is 0 or 1; and

Y is selected from the group of O, S, and NR¹⁰.

20. (Original) A pharmaceutical composition according to claim 15, wherein R⁹ is selected from the group of hydrogen, F, Cl, Br, CN, C1-C6 alkyl, C1-C6 heteroalkyl, C1-C6 haloalkyl, C2-C6 alkenyl or cycloalkenyl, C2-C6 heteroalkenyl, C2-C6 haloalkenyl, C2-C6 alkynyl, C2-C6 heteroalkynyl, C2-C6 haloalkynyl, aryl and heteroaryl, optionally substituted

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with one or more substituents independently selected from the group of hydrogen, C₁-C₄ alkyl, F, Cl, Br, I, CN, NO₂, NH₂, NHCH₃, N(CH₃)₂, SH, SCH₃, OH, OCH₃, OCF₃, CF₃, C(O)CH₃, CO₂CH₃, C(O)NH₂, OR¹⁰, SR¹⁰, and NR¹⁰R¹¹.

- 21. (Original) A pharmaceutical composition according to claim 20, wherein R^9 is selected from the group of hydrogen, Br, C_1 , C_1 - C_4 alkyl, C_1 - C_4 heteroalkyl, C_1 - C_4 haloalkyl, C_2 - C_4 alkenyl, C_2 - C_4 heteroalkenyl, C_2 - C_4 haloalkenyl, C_2 - C_4 haloalkynyl, and C_2 - C_4 haloalkynyl.
- 22. (Original) A pharmaceutical composition according to claim 20, wherein R⁹ is selected from the group of aryl and heteroaryl radicals, wherein said aryl and heteroaryl radicals are optionally substituted with one or more substituents independently selected from the group of hydrogen, C₁-C₄ alkyl, F, Cl, Br, CN, NH₂, NHCH₃, N(CH₃)₂, SH, SCH₃, OH, OCH₃, OCF₃, OR¹⁰, SR¹⁰, and NR¹⁰R¹¹.
- 23. (Currently amended) A pharmaceutical composition according to claim 22, wherein R⁹ is selected from the group of:

$$\mathbb{R}^7$$
 \mathbb{R}^7
 \mathbb{R}^6
 \mathbb{R}^6
 \mathbb{R}^6
 \mathbb{R}^6
 \mathbb{R}^6

wherein:

 R^6 is selected from the group of hydrogen, F, Cl, Br, C₁-C₄ alkyl, OR^{10} , SR^{10} , and $NR^{10}R^{11}$:

R⁷ is hydrogen, F, or Cl;

R¹⁰ and R¹¹ each independently is hydrogen, or C₁-C₄ alkyl;

X is CH or N; and

Y is selected from group of O, S, and NR¹⁰.

24. (Currently amended) A pharmaceutical composition according to claim 23,

wherein R⁹ is

wherein:

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R⁶ is selected from the group of hydrogen, F, Cl, C₁-C₄ alkyl, OMe, OEt, NHMe, and NMe₂; and

R⁷ is hydrogen, F, or Cl.

25. (Original) A pharmaceutical composition according to claim 23, where R⁶ is selected from the group of F, Me, Et, OMe, OEt, SMe, and NMe₂.

Claims 26-40 (Cancelled)

- 41. (New) A method of treating a condition mediated by a progesterone receptor, comprising administering to an individual a pharmaceutically effective amount of a compound of any one of claims 1 to 14.
 - 42. (New) The method of claim 41, wherein the compound is represented by formula (I):

wherein:

 R^8 is selected from among C_1 - C_{12} alkyl, C_1 - C_{12} heteroalkyl, C_1 - C_{12} haloalkyl, C_2 - C_{12} alkenyl, C_2 - C_{12} heteroalkenyl, C_2 - C_{12} haloalkenyl, C_2 - C_{12} alkynyl, C_2 - C_{12} heteroalkynyl, C_2 - C_{12} haloalkynyl, aryl and heteroaryl, optionally substituted with one or more substituents independently selected from the group of hydrogen, C_1 - C_4 alkyl, F, Cl, Br, I, CN, NO_2 , NH_2 , $NHCH_3$, $N(CH_3)_2$, SH, SCH_3 , OH, OCH_3 , OCF_3 , CF_3 , $C(O)CH_3$, CO_2CH_3 , $C(O)NH_2$, OR^{10} , SR^{10} , and $NR^{10}R^{11}$;

or a pharmaceutically acceptable salt or prodrug thereof.

43. (New) The method of claim 41, wherein the compound is represented by formula (II):

wherein:

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R⁹ is selected from among hydrogen, F, Cl, Br, I, CN, C₁-C₈ alkyl, C₁-C₈ heteroalkyl, C₁-C₈ haloalkyl, C₂-C₈ alkenyl or cycloalkenyl, C₂-C₈ heteroalkenyl, C₂-C₈ haloalkenyl, C₂-C₈ alkynyl, C2-C8 heteroalkynyl, C2-C8 haloalkynyl, aryl and heteroaryl, optionally substituted with one or more substituents independently selected from the group of hydrogen, C₁-C₄ alkyl, F, Cl, Br, I, CN, NO₂, NH₂, NHCH₃, N(CH₃)₂, SH, SCH₃, OH, OCH₃, OCF₃, CF₃, C(O)CH₃, CO₂CH₃, C(O)NH₂, OR¹⁰, SR¹⁰, and NR¹⁰R¹¹;

or a pharmaceutically acceptable salt or prodrug thereof.

- 44. (New) The method of claim 41, wherein the condition is selected from the group consisting of dysfunctional uterine bleeding, dysmenorrhea, endometriosis, leiomyomas (uterine fibroids), hot flushes, mood disorders, meningiomas, hormone-dependent cancers, and female osteoporosis.
- 45. (New) A method of modulating fertility in an individual, comprising administering to the individual a pharmaceutically effective amount of a compound of any one of claims 1 to 25.
- 46. (New) A contraceptive method, comprising administering to an individual a pharmaceutically effective amount of a compound of any one of claims 1 to 25.
- 47. (New) The method of claim 41, wherein the condition is alleviated with female hormone replacement therapy.
- 48. (New) A method of modulating a progesterone receptor in an individual, comprising administering a progesterone modulating effective amount of a compound of any one of claims 1 to 25.
 - 49. (New) The method of claim 48, wherein the modulation is activation.
- 50. (New) The method of claim 49, wherein the compound provides at least 50% maximal activation of the progesterone receptor at a blood plasma concentration of less than 100 nM.
- 51. (New) The method of claim 49, wherein the compound provides at least 50% maximal activation of the progesterone receptor at a blood plasma concentration of less than 50 nM.
- 52. (New) The method of claim 49, wherein the compound provides at least 50% maximal activation of the progesterone receptor at a blood plasma concentration of less than 20 nM.
- 53. (New) The method of claim 49, wherein the compound provides at least 50% maximal activation of the progesterone receptor at a blood plasma concentration of less than 10 nM.

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54. (New) A method of treating cancer in an individual, comprising administering to the individual a pharmaceutically effective amount of a compound of any one of claims 1 to 25.

- 55. (New) A method of detecting the presence of a progesterone receptor in a cell or cell extract, comprising:
 - (a) labeling a compound of any one of claims 1 to 25;
 - (b) contacting the cell or cell extract with the labeled compound; and
- (c) testing the contacted cell or cell extract to determine the presence of the labeled compound, thereby detecting the presence of progesterone receptor.